

Listing of Claims:

1. -21. (canceled)

22. (Previously Presented) An illumination device for backlighting an image reproduction device containing light valves, the illumination device comprising a thermally conductive carrier having a flat mounting surface and a plurality of luminous spots arranged in a grid format on the flat mounting surface of said carrier, each of said luminous spots having a plurality of light emitting diodes and a submount, each of said plurality of light emitting diodes of a respective one of said luminous spots being electrically insulated from the others of the light emitting diodes of the respective one of said luminous spots, said submounts exhibiting good thermal conductivity and connected to the flat mounting surface of said carrier such that the connections between said submounts and said carrier exhibit good thermal conductivity.

23. (Previously Presented) The illumination device of claim 22, wherein the area of said submounts is less than the entire area covered by the grid on said carrier, said illumination device further comprising lines for supplying power to the light emitting diodes arranged on that area of the carrier not occupied by submounts.

24. (Previously Presented) The illumination device of claim 23, wherein said lines for supplying power are routed in a flexible film that is continued as a flat lead outside said carrier.

25. (Previously Presented) The illumination device of claim 22, wherein said submounts are made of silicon.

26. (Previously Presented) The illumination device of claim 22, wherein said carrier is made of aluminum.

27. (Previously Presented) The illumination device of claim 22, wherein said carrier is made of copper.

28. (Previously Presented) The illumination device of claim 22, further comprising a heat sink connected to said carrier.

29. (Previously Presented) The illumination device of claim 23, wherein said insulating carrier comprises spaces between said submounts filled with plastic.

30. (Previously Presented) The illumination device of claim 22, wherein said plurality of light emitting diodes of a respective luminous spot emit varicolored light.

31. (Previously Presented) The illumination device of claim 22, wherein each of said plurality of luminous spots has four light emitting diodes.

32. (Previously Presented) The illumination device of claim 31, wherein said each of said plurality of luminous spots has two green-luminous light emitting diodes, one blue-luminous light emitting diode and one red-luminous light emitting diode.

33. (Previously Presented) The illumination device of claim 22, further comprising a plurality of reflectors, wherein a reflector surrounds each respective one of said luminous spots.

34. (Previously Presented) The illumination device of claim 33, wherein each reflector forms a depression that is filled with a transparent plastic.

35. (Previously Presented) The illumination device of claim 22, wherein a respective one of said plurality of light emitting diodes of one luminous spot is connected in series with a respective light emitting diode of another one of said plurality of luminous spots and forms an electric circuit.

36. (Previously Presented) The illumination device of claim 35, wherein the ones of said luminous spots having said light emitting diodes associated with said electric circuit are interleaved with luminous spots associated with at least one other electric circuit.

37. (Previously Presented) The illumination device of claims 35, wherein each luminous spot includes a plurality of identically colored light emitting diodes, each of the identically colored light emitting diodes being connected to different electric circuits.

38. (Currently Amended) An The illumination device for backlighting an image reproduction device containing light valves, of claim 37, further the illumination device comprising:

a thermally conductive carrier having a flat mounting surface and a plurality of luminous spots arranged in a grid format on the flat mounting surface of said carrier, each of said luminous spots having a plurality of identically colored light emitting diodes and a submount, each of said plurality of identically colored light emitting diodes of a respective one of said luminous spots being electrically insulated from the others of the identically colored light emitting diodes of the respective one of said luminous spots, each of the identically colored light emitting diodes being connected to different electric circuits, said submounts exhibiting good thermal conductivity and connected to the flat mounting surface of said carrier such that the connections between said submounts and said carrier exhibit good thermal conductivity; and

control devices arranged and dimensioned for providing currents fed to each of the electric circuits, wherein said control devices, in the event of interruption of one of the electric circuits for said identically colored light emitting diodes which causes a color shift in the color produced by said luminous spot, control the currents in the electric circuits for the at least one other electric circuit for the identically colored light emitting diodes or for differently colored light emitting diodes of the same luminous spots to compensate for the color shift produced by the interruption;

wherein a respective one of said plurality of light emitting diodes of one luminous spot is connected in series with a respective light emitting diode of another one of said plurality of luminous spots and forms an electric circuit.

39. (Previously Presented) The illumination device of claim 38, wherein the control of the current comprises an increase in the current in the at least one other electric circuit for identically colored light emitting diodes.

40. (Previously Presented) The illumination device of claim 38, wherein the control of the current comprises a decrease in the current in the at least one other electric circuit for differently colored light emitting diodes.

41. (Previously Presented) The illumination device of claim 35, wherein said plurality of luminous spots form a grid of 4×8 luminous spots, each of said plurality of luminous spots having two green-luminous light emitting diodes and two red-luminous light emitting diodes, wherein four electric circuits are provided for the red-luminous light emitting diodes, two of said four electric circuits being assigned to said red-luminous light emitting diodes of identical luminous spots, said identical spots being distributed over the grid in checkered fashion.

42. (Previously Presented) The illumination device of claim 41, wherein each of said green-luminous light emitting diodes are connected to eight electric circuits, in each case one green-luminous light emitting diode of eight luminous spots being connected to one electric circuit and a further green-luminous light emitting diode of the same luminous spot being connected to another electric circuit.

43. (Previously Presented) The illumination device of claim 22, wherein said carrier is composed of ultrapure aluminum.

44. (Previously Presented) The illumination device of claims 22, wherein each luminous spot includes a plurality of identically colored light emitting diodes, each of the identically colored light emitting diodes being connected to different electric circuits.

45. (Previously Presented) An illumination device for backlighting an image reproduction device, comprising:

a thermally conductive carrier having a flat mounting surface;

a planar frame arranged on said flat mounting surface and defining a plurality of holes arranged in a grid format;

a plurality of luminous spots arranged on said flat mounting surface, each of said luminous spots being arranged in a respective one of said holes and including a group of light emitting diodes arranged on a submount such that said submount is arranged between said group of light emitting diodes and said carrier, said submount being thermally conductive such that connection between each of said submounts and said carrier are thermally conductive connections; and

lines configured to supply power to said light emitting diodes arranged between said frame and said carrier in areas of said carrier unoccupied by said submounts.